

Work Order ID 138238

138238

Page 1

Tuesday, October 27, 2015 11:06:16 AM

Item ID: 647.7703 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Strut Assembly
 Start Date: 10/26/2015 Start Qty: 2.00 *2* Cust Item ID:
 Required Date: 10/26/2015 Req'd Qty: 2.00 *2* Customer:
 Reference:

Approvals: Process Plan: ML5 Date: OCT 28 2015 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.7700	A1								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	Weld per dwg A/R 4130 rod Batch: <u>112225</u>	0.00							
120									
Large Fab	Memo	0.00							
Large Fab	1- ASSEMBLE AND WELD AS PER DWG								
	***IMPORTANT DIMENSION IS 8.35" ***								
130	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
130									
QC	Memo	0.00							
Quality Control									

4 EL 15-11-19
4 EL 15-11-19
(4) 15-11-20 DAS
9
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								

DQA: _____ Date: _____



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Picklist Print

Tuesday, October 27, 2015 11:06:15 AM

Page 1

Work Order ID: 138238

138238

Parent Item: 647.7703

647 7703

Parent Item Name: Strut Assembly

Start Date: 10/26/2015

Required Date: 10/26/2015

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 15.01.07 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

647.7712

Manufactured

No

Each

6.0000

2

647 7712

Strut Tube

**

EL 15-11-19

Location

Loc Qty

Loc Code

CCK114

6

134880

6

4

647.7713

Manufactured

No

Each

4.0000

2

647 7713

Strut Thread

**

EL 15-11-19

Location

Loc Qty

Loc Code

CCK114

4

134905

4

4

647.7714

Manufactured

No

Each

14.0000

2

647 7714

Strut Tube

**

EL 15-11-19

Location

Loc Qty

Loc Code

WA001

14

136246

6

136690

8

4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05110

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED BY

A. QUAN

DATE: 08/21/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF.

CURRENT ORDER

TRANSACTION CODES (TC):

A-ADD
R-REVISE

C-CREATE
D-DELETE

REASON: REVISED FINISH CALLOUT AS PER ECR 15-209

SHEET 1, NOTES IS:

ACTION: UPDATE MO & WO

NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW QQ-P-416F CLASS I TYPE II
- 9 MASK THREAD PRIOR TO FINISH

SHOP COPY
FOR PART 2
ENGINEERING
UNCONTROLLED COPY
FOR WORK ORDER
WORK ORDER
NO. 138238 MC5
15-10-28

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED: ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM					
CHANGE CATEGORY				DER REVIEW REQUIRED	
☐ MAJOR ☐ MINOR				☐ YES ☐ NO	

NOTES:

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8. FINISH: CAD PLATE IAW MIL-C-5541 CLASS 1A
9. MASK THREAD PRIOR TO FINISH

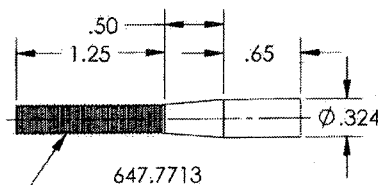
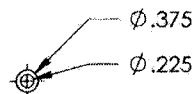
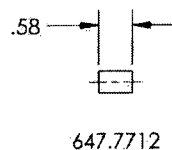
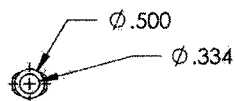
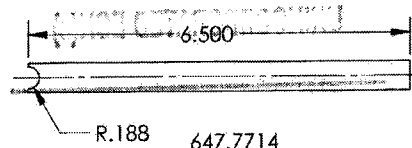
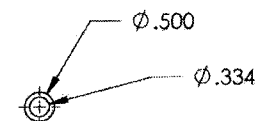
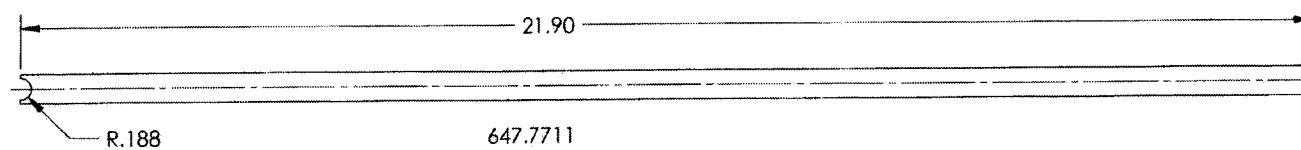
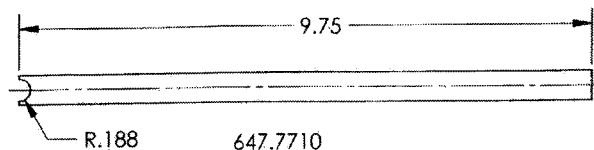
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVER
	LAST PROTOTYPE REVISION 100		100
N/C	FINAL RELEASE	12/22/20	P. BRAVO
A	INCORPORATED ECH DATA?	1/13/21	P. BRAVO

UNINCORPORATED ECN(S)

05110

1		5	647.7714	STRUT TUBE	△	
1	1	4	647.7713	STRUT THREAD	△	△
1	1	3	647.7712	STRUT TUBE	△	
	1	2	647.7711	STRUT TUBE	△	
	1	1	647.7710	STRUT TUBE	△	
△	△		647.7703	STRUT ASSY	△	△
△	△		647.7702	STRUT ASSY	△	△
△	△		647.7701	STRUT ASSY	△	△
7703	7702	7701	FIND #	PART #	DESCRIPTION	MAT'L SPEC.
QTY				PART LIST		
NEXT ASSY (\$)			OFFICIAL DATE: 1/28/89 DRAWN BY: J. JACKSON CHECKED BY: G. BARNER DESIGNED BY: J. JACKSON APPROVED BY: J. JACKSON CONTRACT NO.			
647.7300			578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997			

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1/4 - 28 THREAD

ORIGINAL DATE 1/20/09		APICAL INDUSTRIES	
DRAWN BY J. JACOBSON		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY J. JACOBSON		STRUT ASSY	
DRAWING APPROVAL BY BRANDY		REV. A	
CONTRACT NO.		647.7700	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 1 PLACE DECIMALS ±.005 ANGLES ±.2°		SCALE: NONE	SHEET 2 OF 2



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO30569**

Purchase Order Date 11/25/2015

PO Print Date 11/25/2015

Page Number 1 of 2

Order From :

GROUP ALTECH
2455 HALPERN

ST LAURENT, MONTREAL H4S 1N9

VC-ALT01

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED

Contact Name

Vendor Phone 514-355-3666

Ship To Contact

Ship To Phone

Ship Via: FedEx PI ppd

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
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1	136459	647.7703 STRUT ASSEMBLY	12/7/2015		4.00	\$14.75	\$59.00
			Yes 12/7/2015				

Cad Plating is to be done per QQ-P-416F Class I Type II.

PLEASE NOTE: HYDROGEN ENDBRITALEMENT IS INCLUDED IN PRICING PER UNIT

Line Total: \$59.00

2	138238	647.7703 STRUT ASSEMBLY	12/7/2015		4.00	\$14.75	\$59.00
			Yes 12/7/2015				

Cad Plating is to be done per QQ-P-416F Class I Type II.

PLEASE NOTE: HYDROGEN ENDBRITALEMENT IS INCLUDED IN PRICING PER UNIT

Line Total: \$59.00

8015-12-62

Note:

11/25/2015



2455, Halpern, Saint-Laurent, QUÉBEC, H4S 1N9
Tel.:(514)335-3666 Fax.:(514)335-3868
Internet : www.groupaltech.com

Bon de livraison / Packing Slip
et / and
Certificat de conformité / Certificate of Compliance

Bon-Livraison / Pk.Slip # : 114257-1 01/12/2015
Bon-Commande. / W.Order # : 114257
Client P.O. # : PO30569
Transport :

Envoyé à / Ship to

DART AEROSPACE LTD
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

Commandé par / Order by

DART AEROSPACE LTD (1427)
1270 ABERDEEN STREET
HAWKESBURY
ONTARIO, CANADA K6A 1K7

#	No. Job No. Réf	NoSerie / Part Number Nom Produit / Product	Traitement Process	Poids Weight	Qté Qty	Envoyé Sent	A venir BO
1	UNIT 136459	647.7703 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1	0.00	4	4	0
2	UNIT 136459	647.7703 Rev.	HYDROGEN ENBRITAMENT RELIEF (BAKE)	0.00	4	4	0
3	UNIT ✓ 138238	647.7703 Rev. ✓	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1	0.00	4	4	0
4	UNIT ✓ 13238 138238	647.7703 Rev. ✓	HYDROGEN ENBRITAMENT RELIEF (BAKE)	0.00	4	4	0
5	UNIT 139295	647.7703 Rev.	CADMIUM YELLOW PER QQ-P-416F TY:2 CL:1	0.00	12	12	0
6	UNIT 139295	647.7703 Rev.	HYDROGEN ENBRITAMENT RELIEF (BAKE)	0.00	12	12	0

SP/5-12-02

Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
Our financial and legal responsibility will not be higher than the amount of invoice.